

(19)



(11)

EP 1 334 913 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:
05.09.2007 Bulletin 2007/36

(51) Int Cl.:
B65D 8/04 (2006.01) B29C 45/16 (2006.01)

(21) Application number: **03001903.8**

(22) Date of filing: **29.01.2003**

(54) **Multiple component container and method of moulding same**

Mehrteiliger Behälter und Giessverfahren zu seiner Herstellung

Récipient en plusieurs parties et procédé pour son moulage

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT SE SI SK TR**

(30) Priority: **26.03.2002 US 106926
08.02.2002 US 354490**

(43) Date of publication of application:
13.08.2003 Bulletin 2003/33

(73) Proprietor: **Dart Industries Inc.**
Orlando,
Florida 32837 (US)

(72) Inventors:
• **Jalet, Vincent**
1000 Brussels (BE)

• **Daenen, Robert H.C.M.**
9300 Aalst (BE)
• **Cautereels, Victor J.J.**
2520 Ranst (BE)

(74) Representative: **Parry, Simon James et al**
Forrester & Boehmert,
Pettenkoferstrasse 20-22
80336 München (DE)

(56) References cited:
WO-A-01/28744 DE-A- 3 503 036
DE-U- 8 221 648 FR-A- 1 078 300
FR-A- 2 331 238 GB-A- 886 928
US-A- 3 914 081

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

Description

BACKGROUND OF THE INVENTION

[0001] The present invention broadly relates to molded plastic containers formed in multiple layers of appropriate synthetic resinous materials.

[0002] While such containers are generally known, as will be seen in U.S. Patent No. 3,309,448, issued March 14, 1967, such known containers basically comprise duplicate layers coextensive with each other with each layer in itself being of a full receptacle configuration. In the container described in Patent No. 3,309,448, the purpose of the multiple layers is to provide for a two-tone appearance.

[0003] In another known form of multiple layer container, the first receptacle defining component will have a second receptacle defining component enclosing only the lower portion of the first receptacle component, thus providing a particular aesthetic appearance involving lower and upper zones.

[0004] As will be seen, for example in U.S. Patent No. 3,914,081, the bowl and ring portions of the serving bowl could be formed together in one injection molding apparatus. The apparatus described in U.S. Patent No. 3,914,081 discloses a machine that would allow for two step injection molding of ring and base portions of a container in accordance with the present invention. Furthermore, FR 2331238 describes a container according to the preamble of claim 1.

SUMMARY OF THE INVENTION

[0005] A principal object of the present invention is to provide a container formed of multiple components wherein only one of the components is what might be considered a receptacle, that is having a closed bottom, while the other component or components so relate thereto as to define a completed container. The completed container will be of an extended height, have distinct aesthetic appearance characteristics, have at least three zones of varied appearances and incorporate such other features as will be noted in the structural combination of the multiple components.

[0006] The goals of the invention are basically achieved by a unique utilization of two components in forming the container. One component comprises a receptacle, that is a base unit with a bottom and upstanding peripheral walls terminating in an open upwardly directed mouth. The second component consists of a ring with a wide side wall terminating in vertically opposed open ends defined by continuous edges, forming in effect a collar or sleeve. The ring component conforms to the peripheral wall of the base component and is partially telescopically engaged therewith, lying either against the inner surface of the base wall or the outer surface thereof. The lower edge of the ring is spaced above the bottom of the base for an exposure of the lower portion of the

base, with the ring extending upwardly beyond the open mouth of the base to form an extension of the base wall. In this manner, three zones are provided, a lower zone comprising the exposed portion of the base, a central zone defined by the overlapping ring and upper portion of the base, and an upper zone consisting solely of the ring.

[0007] With the two components being of different colors or shades of color, and with at least the outermost component being translucent or transparent, the resultant three zones will be of different colors with the lowermost and uppermost zones the colors of the particular components, and with the intermediate zone being a combination of the overlying colors. Even were the lowermost and uppermost zones of the same color, the intermediate zone would inherently appear darker, presenting an intermediate darker band surrounding the wall of the container. Along the same lines, and again assuming a transparency or translucency to the outer component, the overlapped edge of the inner component, whether this be the upper edge of the base or the lower edge of the ring, will be visible therethrough, thus providing for an additional decorative effect, particularly when such edge includes undulations therein.

[0008] It will also be appreciated that the overlapping of the components about an intermediate height on the peripheral wall of the formed container will tend to inherently strengthen the container. Further, as desired, multiple rings can be provided in a partially overlapping stacked relation on and above the base.

[0009] A still further object of the present invention is to provide a method, or process, for molding of synthetic resin a container initially formed of multiple components which, as a result of the method of this invention, become integral components of a container. In a preferred carrying forth of the manipulative steps of the method, there is molded, preferably by an injection molding technique, a generally open ring configured component and a generally closed end base component. Preferably, although not necessarily, conventional injection molding apparatus is utilized in a first molding step to mold the ring component followed by a second molding step to mold the base component. Such method may be characterized as an underinjection molding method.

[0010] The at least two step molding method of the present invention may be carried out in a single molding apparatus, such as exemplified by U.S. Patent No. 3,914,081. However, it will be appreciated that the at least two step molding method of the present invention may be carried out using more than one molding apparatus, such as when a first component is molded in a first apparatus and the first component is transferred to a second molding apparatus to effect molding of a second component so as to form an integral member, such as a container.

[0011] Further objects and advantages of the invention will be noted as the construction and details of the invention are more fully hereinafter set forth.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012]

Figure 1 is a perspective view of one embodiment of the invention wherein the ring comprises the outer component;

Figure 2 is an elevational view thereof;

Figure 3 is an enlarged cross-sectional view thereof taken substantially on a plane passing along line 3-3 in Figure 1;

Figures 4 and 5 are enlarged details of the transition areas between the inner base and the outer ring at the areas indicated in Figure 3;

Figure 6 is a cross-sectional view of a variation wherein multiple rings are provided;

Figure 7 is a perspective view of a further embodiment wherein the base comprises the outermost component with the ring telescoped therein;

Figure 8 is an elevational cross-section through the container of Figure 7;

Figure 9 is a perspective view of a further embodiment wherein the mouth of the inner base is defined by an undulating edge visible through the outer ring;

Figure 10 is an elevational view of the container of Figure 9;

Figure 11 is a perspective view of a further variation; and

Figure 12 is an elevational view of the container of Figure 11.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0013] The foregoing goals of the invention are basically achieved by at least a two step method or process of molding, normally referred to as a co-injection process. The practice of the co-injection process of the present invention may be characterized as: a multi-injection 2C, i.e., two component; and a sandwich technique.

Furthermore, the "2C" applications may used special two component machines fitted with a turning table, e.g. an EngelDK™ machine; and a transfer technique utilize two machines, e.g. Engel™ 500 and 550T machines, linked with a robot to transfer a first molded item from the first machine (first station mold) to a second station mold in a second machine to complete the co-injection process.

[0014] In the multiple component co-injection process of the present invention, generally in a first molding step, a ring component with a relatively wide side wall is molded, preferably of a first color, either translucent or even opaque, and then a second molding step a base component is molded and bonded together to form an article, such as a container. The bonding may be via chemical adhesion of an autogenous or adhesive nature.

[0015] A base component of a bowl, container or vessel produced in accordance with the present method may be of any cross-sectional shape, e.g., round, oval, ellip-

tical, etc. and may be surmounted by a ring component that may terminate at its top edge in any shape, e.g., flat, wavy, undulated, inclined, etc. Likewise, the ring component at its bottom edge, while obviously following the shape of the base component, can also at its bottom edge terminate in any shape, e.g., flat, wavy, undulated, inclined, etc. Preferably, the ring component defines a "hole" the size of which exceeds the size of the base component. A significant aspect of the method of the present invention resides in the at least two step molding to integrally associate the base and ring components wherein the ring component partially overlaps the base component. The molding of the at least two component molded integral containers derived by the practice of the present invention will further be appreciated by the following description of structural embodiments of multiple component containers that may be molded in accordance with the present method.

[0016] Referring now more specifically to the drawings, and with particular attention directed to Figures 1, 2 and 3, the container 10 illustrated therein is formed of two intimately joined components, a base component or portion 12 and a ring component or portion 14. The base 12 is in the nature of an upwardly opening receptacle comprising a closed bottom 16 with a peripheral wall 18 integral therewith and extending vertically therefrom. The wall 18 terminates in a continuous upper edge 20 which defines an upwardly opening mouth for the receptacle base 12.

[0017] The ring component or portion 14 comprises a vertical wall 22 having a continuous lower edge 24 defining an open bottom, and a continuous upper edge 26 defining an open top. Thus formed, the ring 14 provides what might be considered an extension of the base wall.

[0018] The ring 14 is telescopically received over the base 12 in intimate contact therewith and positioned with the lower edge 24 of the ring 14 upwardly spaced from the bottom 16 at some intermediate point along the height of the base wall 18, thereby exposing a portion of the base below the ring lower edge 24. The upper edge 26 of the ring 14 projects or is positioned at a predetermined height above the upper edge 20 of the base 12. With the base and ring related in this manner and intimately bonded to each other, the resultant container 10 consists of three distinct zones, a lower zone 28 consisting solely of the base 12, an intermediate or second zone 30 consisting of the overlying base and ring sections, and the upper or third zone 32 comprising solely the ring or portion of the ring above the upper edge 20 of the base.

[0019] Noting the enlarged detail illustrations presented in Figures 4 and 5, it will be seen that in order to provide for a smooth transition area about the inner surface of the formed container 10, the upper edge of the wall 18 of the inner component, in this instance the base 12, is rather sharply beveled upward and outward and aligns or blends into a similarly angled transition shoulder 34 provided on the inner surface of wall 22 of the outer component, in this instance the ring 14. This shoulder 34

is formed by a slight narrowing of the ring wall 22 at the point of intersection.

[0020] The lower edge of the wall 22 of the outer component, in this instance the edge 24 of the ring 14, is slightly rounded and aligns with a downwardly directed transition shoulder 36 defined in the outer surface of the wall 18 of the inner component, the base 12. This shoulder 36 is defined by a slight narrowing of the base wall 18.

[0021] As suggested with the illustrated upper edge 20 of the base 12, the various edges, whether this upper edge or the upper or lower edges of the ring 14, can be of various configurations, including undulations, in accord with the particular configuration desired, either for aesthetic or functional purposes.

[0022] As will be appreciated, the plastic or synthetic resin materials utilized in the formation of the components of the container, and the manner in which provision is made for the intimate bonding of the components can vary and will be determined by a consideration of many factors, including cost, the particular appearance sought, the nature of the container, the anticipated contents of the container, and the like. As one example, both of the components of the container 10 can be made from polycarbonate materials, utilizing an annealing treatment to release stresses coming from the molding process.

[0023] As will be recognized, the formed container, at approximately mid-height, will be defined by the overlapped inner and outer components, providing an encircling zone 30 of relatively greater strength whereby a degree of additional rigidity is introduced into the container.

[0024] The base and ring can be transparent, translucent or opaque. In this regard, it is preferred that the outer component, the ring 14 in Figures 1-3, be of one color and have some degree of transparency allowing for a viewing of the base 12 therethrough. The base 12 will in turn be of either the same or another color or shade thereof. In this manner, the appearance of the central zone 30 will be determined by a blending or merging of the colors of both the base and the overlying ring, while the lower zone will be the color of the base and the upper zone the color of the ring. The three zones will thus be distinctive and, with different colored inner and outer components, actually present three zones, each of which is a different color or shade, while utilizing only two components. This visual appearance can be enhanced by the visual appearance of the edges defining the upper and lower extents of the middle zone 30, as suggested by the undulations in edge 20.

[0025] Figure 6 illustrates a variation of the invention wherein the container 40 utilizes a base 42, a first outer ring component 44 partially telescoped thereover, and a second upper ring component 46 partially telescoped over the upper portion of the first ring 44 and extending vertically thereabove. These components are all intimately bonded and combine to define five distinct zones. The details of construction of the first embodiment are incorporated herein, including the transition areas pro-

vided at the open edges of the base and rings, and the provision, if desired, of five distinctly different colored zones.

[0026] Figures 7 and 8 illustrate a further variation wherein the outer component comprises a base 50 with the companion ring 52 comprising the inner component partially telescopically received within and intimately bonded to the inner surface of the base wall. Similar transition areas are provided at the overlapping open edges, and all of the features and advantages as described with regard to the first embodiment are incorporated. For example, in providing for the three distinctly colored zones, the base 50, being the outer component, will have some degree of transparency while the inner component or ring 52 could, if so desired, be opaque. Incidentally, depending upon the effect desired, the outer component could also be opaque with the formed container having two distinctly appearing zones with the height of the container increased by the ring and the container having the aforementioned centrally reinforced area thereabout.

[0027] Figures 9 and 10 illustrate a further possible container configuration wherein the base 60 has a generally cylindrical lower portion with a flat bottom 62, and a generally upwardly and outwardly arcing upper portion 64 defining a distinct bowl configuration. The upper outer component 66, forming the ring, encloses the upper portion of the base 64 and extends thereabove, and similarly encircles a minor upper section of the lower portion of the base 60. Thus formed, only the extreme lower portion of the base 60, directly above the bottom 62, is exposed as the lower zone. The intermediate zone is defined by the outwardly flaring upper portion 64 of the base 60, and the upper zone is defined by the upper portion of the ring 66 which follows the curvature of the upper portion 64 of the base and extends substantially thereabove.

[0028] Figures 11 and 12 illustrate yet another embodiment wherein the base 70 is semi-circular in cross section with a rounded bottom 72 to which an annular collar 74 is bonded to provide a planar lower edge 76 for a stable support of the formed container. The upper or outer component, the ring 78 has the lower edge thereof spaced above the support providing collar 74 to expose both the lower portion of the base 70 and the support collar. The ring 78, as with the previously described rings, projects above the upper edge of the base 70 to define the uppermost zone.

[0029] While the invention has been illustrated and basically described as utilized in the formation of serving bowls and the like, the structure and features of the invention as proposed herein are equally adapted for use in the formation of substantially any type of container, including pitchers, flower vases, storage containers, etc. In those instances wherein the container is to be provided with a lid, as with regard to storage containers, it would be an obvious expedient to provide the uppermost component or ring with an upper edge adapted to receive an appropriate cover.

[0030] The foregoing is considered illustrative of the

principles of the invention. As modifications and changes may occur to those skilled in the art, it is not desired to limit the invention to the exact construction and manner of use as shown and described.

Claims

1. A multiple component container (10) comprising a receptacle base (12) having a closed bottom (16) and a peripheral wall (18) extending upward from said bottom, said base wall terminating in a top edge (20) remote from said bottom, and a ring (14) telescopically engaged with said base wall (18), such that one of said base and said ring defines an outer component, and the other of said base and said ring defines an inner component, said ring (14) having a lower edge (24) spaced below said top edge (26) of said base wall and above said base bottom, said ring (14) having an upper edge spaced above said top edge (20) of said base wall whereby said ring defines an upper extension of said base wall (18) and three zones are defined, a first zone (28) comprising the base below the ring, a second zone (30) comprising the overlapped base and ring, and a third zone (32) comprising the ring above the base wall, **characterized in that** said inner component being visible through said outer component, and said base and said ring each have a color incorporated therein whereby said first (28) and third zones (32) are respectively the colors of the base (12) and the ring (14); and said second zone is of a color defined by the overlapping colors of the base and ring.
2. The container of claim 1 wherein said base (12) and said ring (14) are of different colors.
3. The container of claim 1 including a second ring (46) telescopically engaged with said first mentioned ring (44) and having a lower edge positioned between the upper edge of the first mentioned ring and the top edge of the base (42), said second ring also having an upper edge positioned in vertically spaced relation above the upper edge of the first mentioned ring, whereby two additional zones are defined and the effective height of the container is extended, said two additional zones comprising a fourth zone defined by the overlapped first (44) and second rings (46); and a fifth zone comprising the area of second ring above the first ring.
4. The container of claim 3, wherein the second ring (46) is bonded to the first ring so as to be, in fixed overlapping engagement with the first ring.
5. The container of claims 3 or 4 wherein said first mentioned ring (44) comprises the outer component, said second ring (46) surrounding said first ring, said first

ring being intimately bonded to said base and to said second ring.

6. The container of claim 5 wherein said second ring (46) has a degree of transparency whereby said first mentioned ring (44) is visible therethrough.
7. The container of claim 1 wherein said base (12) and said ring (14) are formed of a molded synthetic resin with said base and said ring being intimately bonded together.
8. The container of claim 7 wherein said base (12) and said ring (14) each have a color incorporated therein whereby said first (28) and third zones (32) are respectively the colors of the base and the ring, and said second zone (30) is of a color defined by the overlapping colors of the base and ring.
9. The container of claim 1 wherein one of said base (12) and said ring (14) defines an outer component, and the other of said base (12) and said ring (14) defines an inner component, the outer component having an inner surface, the top edge (20) of the inner component being beveled toward the inner surface of the outer component, said inner surface having a recessed transition area defining a shoulder (36) forming a continuation of said beveled top edge (20) whereby a smooth merger is provided between said inner and outer components at the top edge of the inner component.
10. The container of claims 1 to 9, wherein said inner component has an undulating top edge visible through said outer component.
11. A method of molding an integral container of multiple intimately bonded pre-cursor components, utilising molding apparatus and comprising the steps of:

molding, in a first molding step, a base component having a closed bottom and a peripheral wall extending upward from said bottom, the base component further having a color incorporated therein;

molding, in a second molding step, a separate ring component having a configuration complementary to the configuration of the base component and further having a color incorporated therein; and

telescopically engaging said ring component with the peripheral wall of the base component, such that one of the base component and ring component defines an outer component, and the other of said base component and ring component defines an inner component, the inner component being visible through the outer component, and wherein the ring has a lower edge

spaced below the top edge of the peripheral wall of the base component, the ring having an upper edge spaced above the top edge of the peripheral wall of the base component, whereby said ring defines an upper extension of the peripheral wall and three zones, a first zone comprising the base component below the ring component, a second zone comprising the overlapped area of the base component and ring component, and a third zone comprising the ring component above the base component, whereby the first and third zones are respectively the colors of the base component and ring component and the second zone is of a color defined by the overlapping colors of the base component and ring component.

12. The method of claim 14 wherein the molding of the first and second components is carried out in a single molding apparatus.
13. The method of claim 14 wherein the molding of the first and second components is carried out in at least two molding apparatuses.
14. The method of claim 14 wherein an injection molding is carried out.

Patentansprüche

1. Mehrteiliger Behälter (10), der eine Aufnahmebasis (12) mit einem geschlossenen Boden (16) und einer Umfangswand (18), die sich vom Boden aus nach oben erstreckt, wobei die Basiswand in einer Oberkante (20) endet, die vom Boden entfernt ist, und einen Ring (14) umfaßt, der mit der Basiswand (18) teleskopartig in Eingriff steht, so daß entweder die Basis oder der Ring eine äußere Komponente definiert und das jeweils andere eine innere Komponente definiert, wobei der Ring (14) eine Unterkante (24) aufweist, die mit Abstand unterhalb der Oberkante (26) der Basiswand und oberhalb des Basisbodens angeordnet ist, wobei der Ring (14) eine Oberkante aufweist, die mit Abstand oberhalb der Oberkante (20) der Basiswand angeordnet ist, wodurch der Ring eine obere Verlängerung der Basiswand (18) definiert und drei Zonen definiert werden, eine erste Zone (28), die die Basis unterhalb des Ringes umfaßt, eine zweite Zone (30), die die Überlappung zwischen Basis und Ring umfaßt, und eine dritte Zone (32), die den Ring oberhalb der Basiswand umfaßt, **dadurch gekennzeichnet, daß** die innere Komponente durch die äußere Komponente hindurch sichtbar ist und die Basis und der Ring jeweils eine darin eingearbeitete Farbe aufweisen, wodurch die erste (28) und dritte Zone (32) Farben der Basis (12) bzw. des Rings (14) sind; und die zweite Zone eine Farbe

aufweist, die durch die überlappenden Farben der Basis und des Rings definiert wird.

2. Behälter nach Anspruch 1, **dadurch gekennzeichnet, daß** die Basis (12) und der Ring (14) unterschiedliche Farben aufweisen.
3. Behälter nach Anspruch 1, **dadurch gekennzeichnet, daß** er einen zweiten Ring (46) einschließt, der mit dem ersten erwähnten Ring (44) teleskopartig in Eingriff steht und eine Unterkante aufweist, die zwischen der Oberkante des zuerst erwähnten Rings und der Oberkante der Basis (42) angeordnet ist, wobei der zweite Ring ebenfalls eine Oberkante aufweist, die vertikal mit Abstand oberhalb der Oberkante des ersten erwähnten Rings angeordnet ist, wodurch zwei zusätzliche Zonen definiert werden und die effektive Höhe des Behälters verlängert wird, wobei die zwei zusätzlichen Zonen eine vierte Zone umfassen, die durch überlappenden ersten (44) und zweiten Ringe (46) definiert wird, und eine fünfte Zone, die die Fläche des zweiten Rings oberhalb des ersten Rings umfaßt.
4. Behälter nach Anspruch 3, **dadurch gekennzeichnet, daß** der zweite Ring (46) so an den ersten Ring (44) geklebt ist, daß er in fixiertem überlappenden Eingriff mit dem ersten Ring steht.
5. Behälter nach den Ansprüchen 3 oder 4, **dadurch gekennzeichnet, daß** der erste erwähnte Ring (44) die äußere Komponente umfaßt, wobei der zweite Ring (46) den ersten Ring umgibt, wobei der erste Ring innig an die Basis und an den zweiten Ring geklebt ist.
6. Behälter nach Anspruch 5, **dadurch gekennzeichnet, daß** der zweite Ring (46) einen Grad von Transparenz aufweist, wodurch der erste erwähnte Ring (44) dort hindurch sichtbar ist.
7. Behälter nach Anspruch 1, **dadurch gekennzeichnet, daß** die Basis (12) und der Ring (14) aus einem ausgeformten Kunstharz gebildet sind, wobei die Basis und der Ring innig miteinander verklebt sind.
8. Behälter nach Anspruch 7, **dadurch gekennzeichnet, daß** die Basis (12) und der Ring (14) jeweils eine darin eingearbeitete Farbe aufweisen, wodurch die erste (28) und dritte Zone (32) die Farben der Basis bzw. des Rings sind und die zweite Zone (30) eine Farbe aufweist, die durch die überlappenden Farben der Basis und des Rings definiert wird.
9. Behälter nach Anspruch 1, **dadurch gekennzeichnet, daß** entweder die Basis (12) oder der Ring (14) eine äußere Komponente definiert und das jeweils andere eine innere Komponente definiert, wobei die

äußere Komponente eine Innenfläche aufweist, wobei die Oberkante (20) der inneren Komponente zur Innenfläche der äußeren Komponente hin abgelenkt ist, wobei die Innenfläche einen zurückgesetzten Übergangsbereich aufweist, der eine Schulter (36) definiert, die eine Fortsetzung der abgelenkten Oberkante (20) bildet, wodurch ein glatter Übergang zwischen den inneren und äußeren Komponenten an der Oberkante der inneren Komponente bereitgestellt wird.

10. Behälter nach den Ansprüchen 1 bis 9, **dadurch gekennzeichnet, daß** die innere Komponente eine wellenförmige Oberkante aufweist, die durch die äußere Komponente hindurch sichtbar ist.

11. Verfahren zur Ausformung des integralen Behälters aus mehreren innig verklebten Vorläuferkomponenten unter Verwendung einer Formvorrichtung und die Schritte umfassend:

Ausformen, in einem ersten Formschritt, einer Basiskomponente mit einem geschlossenen Boden und einer Umfangswand, die sich vom Boden aus nach oben erstreckt, wobei die Basiskomponente weiter eine darin eingearbeitete Farbe aufweist;

Ausformen, in einem zweiten Formschritt, einer separaten Ringkomponente mit einer zur Konfiguration der Basiskomponente komplementären Konfiguration und weiter eine darin eingearbeitete Farbe aufweisend; und

teleskopartiges Ineingriffbringen der Ringkomponente mit der Umfangswand der Basiskomponente, so daß entweder die Basiskomponente oder die Ringkomponente eine äußere Komponente definiert und die jeweils andere eine innere Komponente definiert, wobei die innere Komponente durch die äußere Komponente hindurch sichtbar ist, und wobei der Ring eine Unterkante aufweist, die mit Abstand unterhalb der Oberkante der Umfangswand der Basiskomponente angeordnet ist, wobei der Ring eine Oberkante aufweist, die mit Abstand oberhalb der Oberkante der Umfangswand der Basiskomponente angeordnet ist, wodurch der Ring eine obere Verlängerung der Umfangswand und drei Zonen definiert, eine erste Zone, die die Basiskomponente unterhalb der Ringkomponente umfaßt, eine zweite Zone, die die überlappende Fläche der Basiskomponente und Ringkomponente umfaßt, und eine dritte Zone, die die Ringkomponente oberhalb der Basiskomponente umfaßt, wodurch die ersten und dritten Zonen die Farben der Basiskomponente bzw. Ringkomponente sind und die zweite Zone eine Farbe aufweist, die durch die überlappenden Farben der Basiskomponente und Ring-

komponente definiert wird.

12. Verfahren nach Anspruch 11, **dadurch gekennzeichnet, daß** die Ausformung der ersten und zweiten Komponenten in einer einzigen Formvorrichtung durchgeführt wird.

13. Verfahren nach Anspruch 11, **dadurch gekennzeichnet, daß** die Ausformung der ersten und zweiten Komponenten in wenigstens zwei Formvorrichtungen durchgeführt wird.

14. Verfahren nach Anspruch 11, **dadurch gekennzeichnet, daß** ein Spritzguß durchgeführt wird.

Revendications

1. Récipient en plusieurs parties (10) comprenant une base réceptacle (12) présentant un fond fermé (16) et une paroi périphérique (18) s'étendant vers le haut depuis ledit fond, ladite paroi de base se terminant dans un bord supérieur (20) éloigné dudit fond, et un anneau (14) couplé télescopiquement à ladite paroi de base (18) de telle sorte que l'un de ladite base et dudit anneau définisse un composant extérieur, et l'autre de ladite base et dudit anneau définisse un composant intérieur, ledit anneau (14) comprenant un bord inférieur (24) espace en dessous dudit bord supérieur (26) de ladite paroi de base et au-dessus dudit fond de la base, ledit anneau (14) comprenant un bord supérieur espacé au-dessus dudit bord supérieur (20) de ladite paroi de base moyennant quoi ledit anneau définit une extension supérieure de ladite paroi de base (18) et trois zones sont définies, une première zone (28) comprenant la base en dessous de l'anneau, une seconde zone (30) comprenant la base et l'anneau superposés, et une troisième zone (32) comprenant l'anneau au-dessus de la paroi de base, **caractérisé en ce que** ledit composant intérieur est visible à travers ledit composant extérieur et ladite base et ledit anneau ont chacun une couleur incorporée dans ceux-ci, moyennant quoi ladite première (28) et ladite troisième (32) zones sont respectivement des couleurs de la base (12) et de l'anneau (14), et ladite seconde zone est d'une couleur définie par la superposition des couleurs de la base et de l'anneau.

2. Récipient selon la revendication 1, dans lequel ladite base (12) et ledit anneau (14) sont de couleurs différentes.

3. Récipient selon la revendication 1, comprenant un second anneau (46) couplé télescopiquement audit premier anneau (44) mentionné et présentant un bord inférieur positionné entre le bord supérieur du premier anneau mentionné et le bord supérieur de

- la base (42), ledit second anneau comprenant également un bord supérieur positionné en relation espacée verticalement au-dessus du bord supérieur du premier anneau mentionné, moyennant quoi deux zones supplémentaires sont définies et la hauteur effective du récipient est étendue, lesdites deux zones supplémentaires comprenant une quatrième zone définie par les premier (44) et second (46) anneaux superposés, et une cinquième zone comprenant la zone du second anneau au-dessus du premier anneau.
4. Récipient selon la revendication 3, dans lequel le second anneau (46) est collé au premier anneau (44) de façon à être en contact par superposition permanente fixe avec le premier anneau.
 5. Récipient selon la revendication 3 ou 4, dans lequel ledit premier anneau (44) mentionné comprend le composant extérieur, ledit second anneau (46) entourant ledit premier anneau, ledit premier anneau étant collé étroitement à ladite base et audit second anneau.
 6. Récipient selon la revendication 5, dans lequel ledit second anneau (46) a un degré de transparence, de sorte que ledit premier anneau (44) mentionné est visible au travers.
 7. Récipient selon la revendication 1, dans lequel ladite base (12) et ledit anneau (14) sont formés d'une résine synthétique moulée avec ladite base et ledit anneau étroitement collés ensemble.
 8. Récipient selon la revendication 7, dans lequel ladite base (12) et ledit anneau (14) ont chacun une couleur incorporée dans ceux-ci, moyennant quoi ladite première (28) et ladite troisième (32) zones sont respectivement des couleurs de la base et de l'anneau, et ladite seconde zone (30) est d'une couleur définie par la superposition des couleurs de la base et de l'anneau.
 9. Récipient selon la revendication 1, dans lequel l'un de ladite base (12) et dudit anneau (14) définit un composant extérieur, et l'autre de ladite base (12) et dudit anneau (14) définit un composant intérieur, le composant extérieur comprenant une surface intérieure, le bord supérieur (20) du composant intérieur étant biseauté vers la surface intérieure du composant extérieur, ladite surface intérieure présentant une zone de transition en creux définissant un épaulement (36) formant une continuité dudit bord supérieur biseauté (20), de sorte qu'une transition douce est assurée entre lesdits composants intérieur et extérieur sur le bord supérieur du composant intérieur.
 10. Récipient selon les revendications 1 à 9, dans lequel ledit composant intérieur comprend un bord supérieur ondulé visible à travers ledit composant extérieur.
 11. Procédé de moulage d'un récipient intégral de multiples composants précurseurs étroitement collés, utilisant un appareil de moulage et comprenant les étapes consistant à:

mouler, dans une première étape de moulage, un composant de base comprenant un fond formé et une paroi périphérique s'étendant vers le haut depuis ledit fond, le composant de base ayant une couleur incorporée dans celui-ci ; mouler, dans une seconde étape de moulage, un composant d'anneau séparé ayant une configuration complémentaire de la configuration du composant de base et ayant également une couleur incorporée dans celui-ci ; et coupler télescopiquement ledit composant d'anneau à la paroi périphérique du composant de base, de telle sorte que l'un du composant de base et du composant d'anneau définisse un composant extérieur, et l'autre dudit composant de base et dudit composant d'anneau définisse un composant intérieur, le composant intérieur étant visible à travers le composant extérieur, et dans lequel l'anneau comprend un bord inférieur espacé en dessous du bord supérieur de la paroi périphérique du composant de base, l'anneau comprenant un bord supérieur espace au-dessus du bord supérieur de la paroi périphérique du composant de base, moyennant quoi ledit anneau définit une extension supérieure de la paroi périphérique et trois zones, une première zone comprenant le composant de base en dessous du composant de l'anneau, une seconde zone comprenant la zone superposée du composant de base et du composant de l'anneau, et une troisième zone comprenant le composant de l'anneau au-dessus du composant de base, moyennant quoi la première et la troisième zones sont respectivement des couleurs du composant de base et du composant de l'anneau, et la seconde zone est d'une couleur définie par la superposition des couleurs du composant de base et du composant de l'anneau.
 12. Procédé selon la revendication 14, dans lequel le montage du premier et du second composants est réalisé dans un seul appareil de moulage.
 13. Procédé selon la revendication 14, dans lequel le moulage du premier et du second composants est réalisé dans au moins deux appareils de moulage.

14. Procédé selon la revendication 14, dans lequel un moulage par injection est réalisé.

5

10

15

20

25

30

35

40

45

50

55

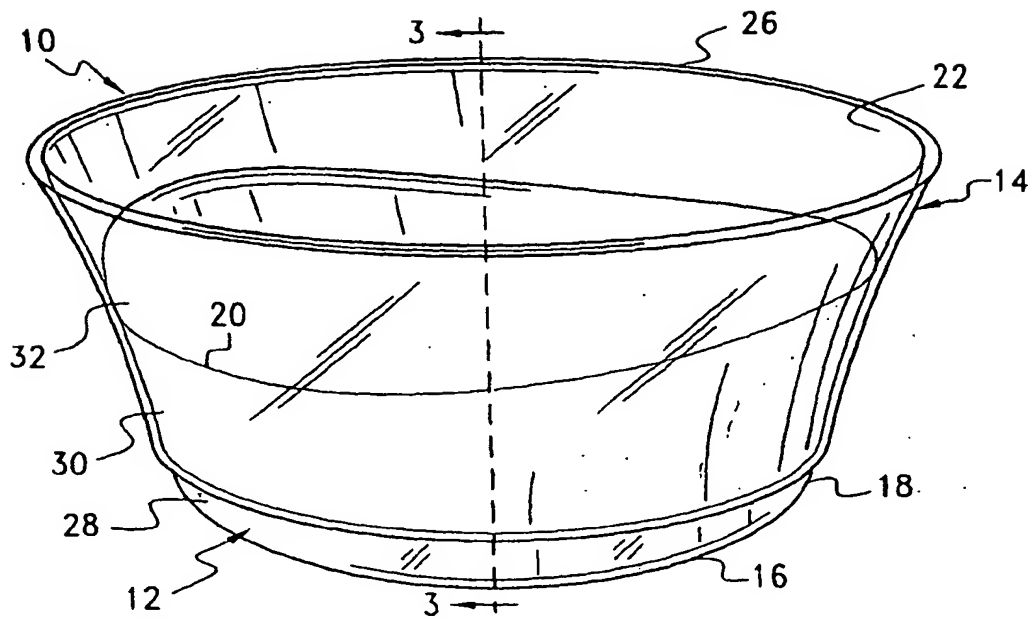


FIG. 1

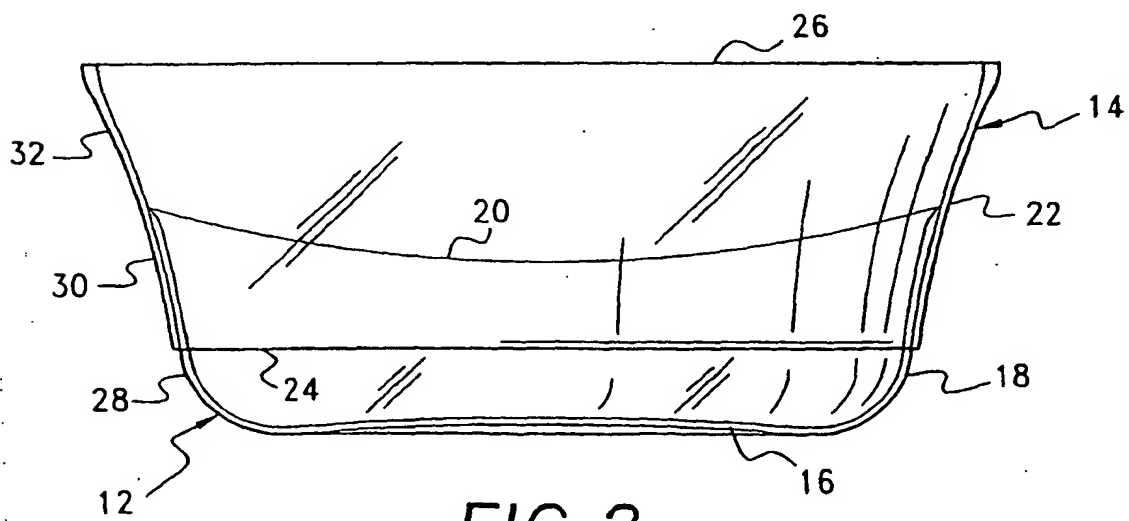
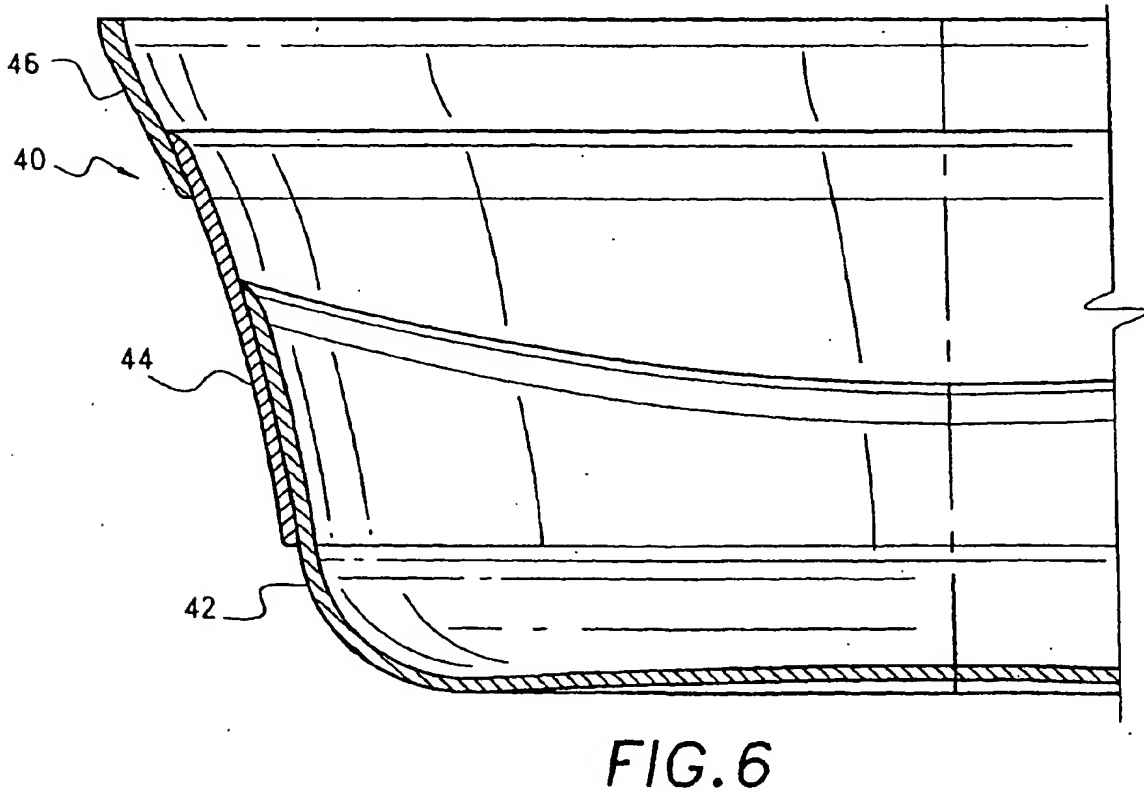
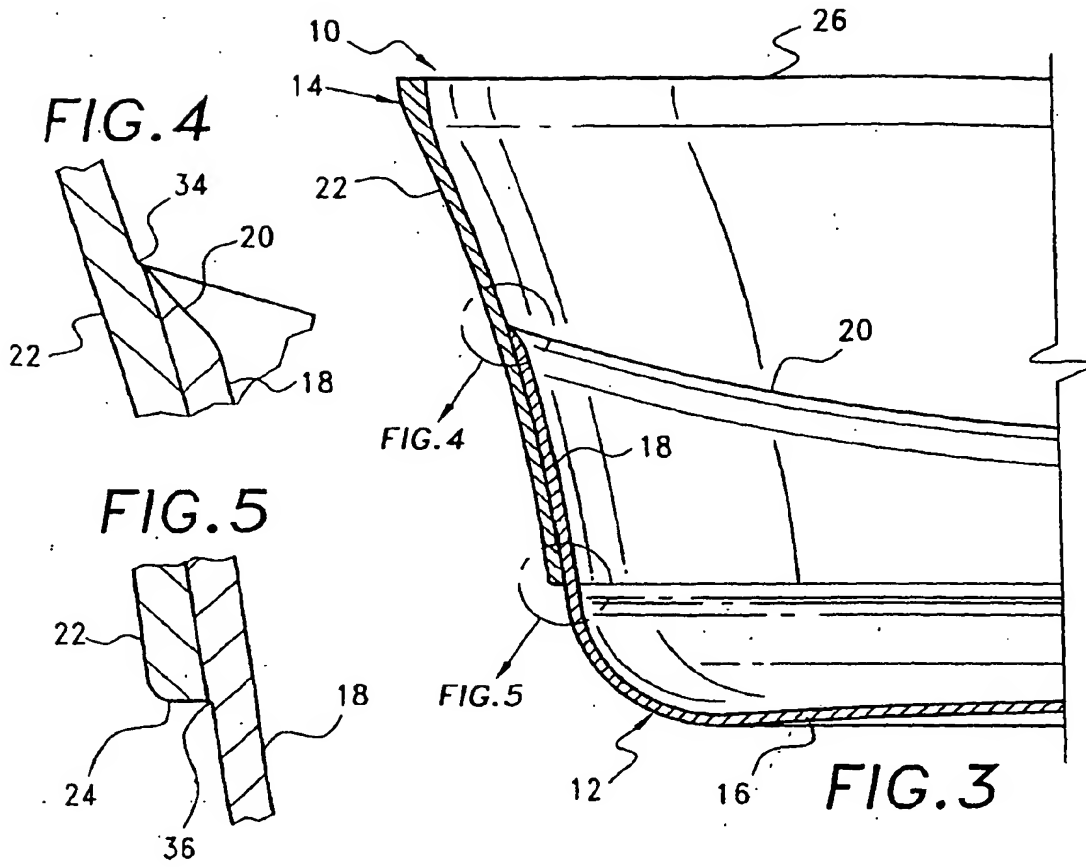


FIG. 2



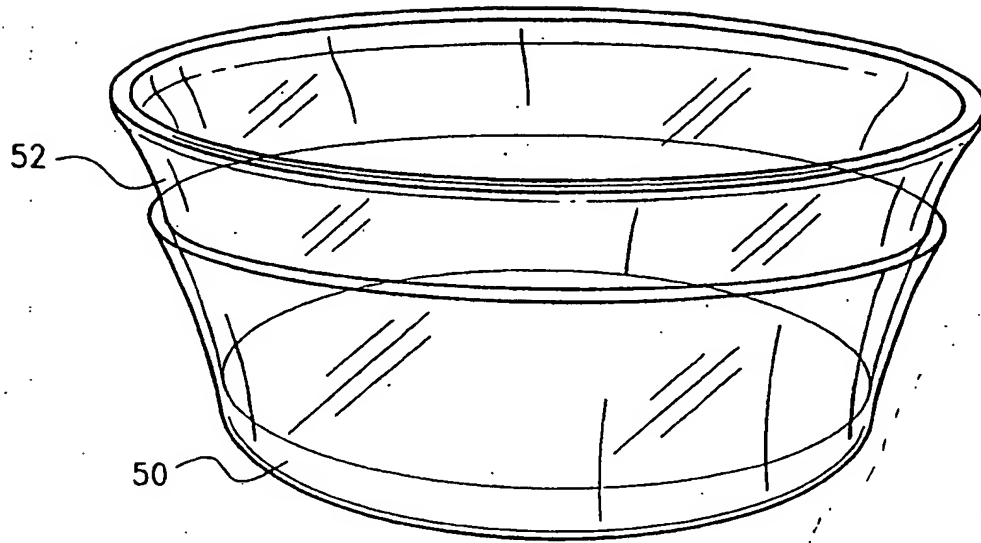


FIG. 7

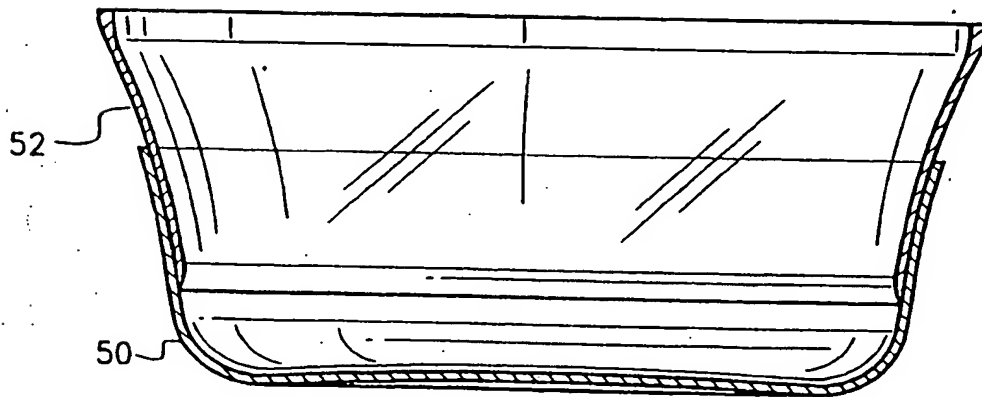


FIG. 8

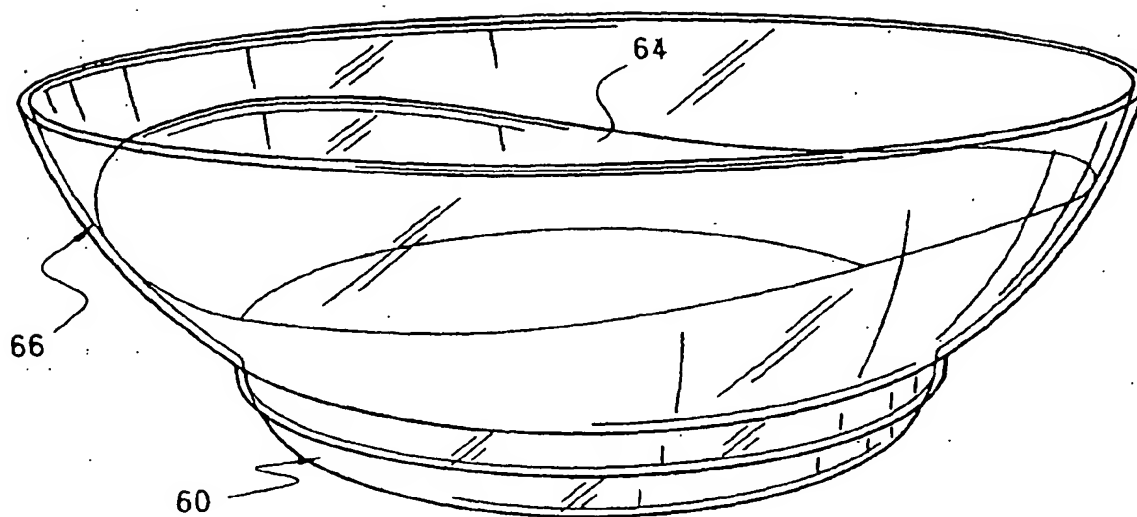


FIG. 9

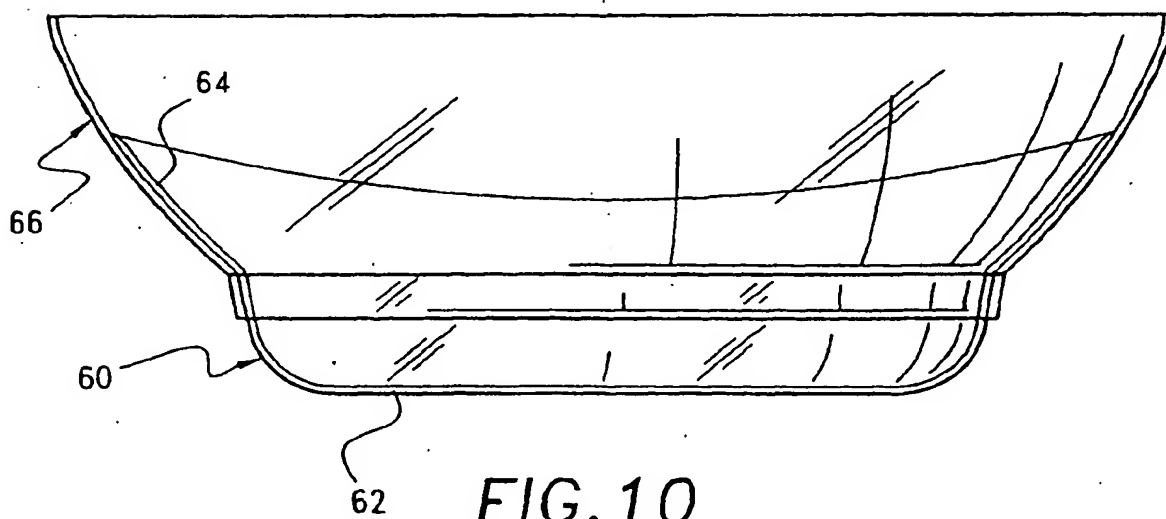


FIG. 10

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- US 3309448 A [0002]
- WO 3309448 A [0002]
- US 3914081 A [0004] [0004] [0010]
- FR 2331238 [0004]